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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/517,875

12/13/2004

Lucas Sannier

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MCCRACKEN & FRANK LLP

311 S. WACKER DRIVE

SUITE 2500

CHICAGO, IL 60606

EXAMINER

SEDDIQUEE, MUHAMMAD S

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

04/01/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/517,875

Applicant(s)

SANNIER ET AL.

Examiner

MUHAMMAD SIDDIQUEE

Art Unit

1795

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-28, 31 and 50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-28, 31 and 50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Applicant's amendment filed on 12/11/2008 was received. Claims 1-25, 29-30, 32-49 and 51 are cancelled and claims 26-28 and 31 are amended.

Response to Arguments

1. Applicant's arguments with respect to claims 26-28, 31 and 50 have been considered but are moot in view of the new ground(s) of rejection. Applicants amended the claims with new limitations and are rejected with new references.
2. The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. In re Herz, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). "A consisting essentially of' claim occupies a middle ground between closed claims that are written in a consisting of' format and fully open claims that are drafted in a comprising' format." PPG Industries v. Guardian Industries, 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998).

Claim Objections

3. Claim 31 is objected to because of the following informalities: claim recites 'liquid electrode'. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yun et al (WO 02/061872 A1) in view of Terashima et al (US 2002/0127472 A1).

Regarding claim 26, Yun discloses a lithium secondary battery comprising a cathode (positive electrode); a lithium anode (negative electrode); an organic electrolyte solution in which a lithium salt is dissolved in an organic solvent (liquid electrolyte comprising a lithium salt); multi-layered polymer electrolyte comprising a separator film layer formed of a polymer electrolyte (plasticized separator), PP, PE,

PVdF or a non-woven fabric; a gelled polymer electrolyte layer (gelled separator) which is cast onto one or both surfaces of the separator film layer, [Fig. 1-2; page 8, lines 15-24; page 9, lines 1-5; page 12, lines 5-21; page 14, lines 14-20]. The figures show that the gelled separator is in contact with the negative electrode and the plasticized separator is in contact with the layer of gelled separator. Yun does not teach that the gelled separator is made from ethylene oxide and the plasticized separator is made from vinylidene fluoride-hexafluoropropylene copolymer. However, Terashima discloses a battery where it is taught that the gel electrolyte can be prepared from ethylene oxide or vinylidene fluoride-hexafluoropropylene copolymer or combining them in a matrix form. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of using ethylene oxide and vinylidene fluoride-hexafluoropropylene copolymer as material for electrolyte as taught by Terashima and use it in the gelled separator and plasticized separator of Yun in order to obtain stable oxidation and reduction, good compatibility and superior mechanical strength.

Regarding claim 27, Yun teaches that the plasticized separator layer is in contact with the positive electrode [Fig. 2a] and regarding claim 28, Yun teaches that the battery comprises, in addition, another gelled separator layer, between the positive electrode and the plasticized separator layer [Fig. 2a]. Here, the separators can be made as those discussed in claim 26.

8. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yun et al (WO 02/061872 A1) in view of Terashima et al (US 2002/0127472 A1) as applied to claim 26 above, and further in view of Yun et al (US 6,355,380 B1).

Regarding claim 31, Yun teaches that an anode and cathode used in lithium secondary batteries are fabricated conventional art by mixing a certain amount of active materials, conducting materials, binders and an organic solvent which [page 14, lines 14-22]. Yun remains silent about the specific conducting material. However, Yun '380 discloses a lithium battery comprising a cathode wherein the cathode comprises an active material, graphite as a conductive material and polymer which is able to be plasticized by the liquid electrolyte [column 7, lines 16-26]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use graphite (carbon) as taught by Yun '380 in order to have an efficient cathode.

9. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yun et al (WO 02/061872 A1) in view of Terashima et al (US 2002/0127472 A1) as applied to claim 26 above, and further in view of Enomoto et al (US 2001/0049054 A1).

Regarding claim 50, Yun remains silent about usage of the battery. However, Enomoto teaches that lithium secondary battery can be used for hybrid vehicle [paragraph 0002]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the battery of Yun in hybrid vehicle as taught by Enomoto in order to save energy and protect the environment.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **MUHAMMAD SIDDIQUEE** whose telephone number is (571) 270-3719. The examiner can normally be reached on Monday-Thursday, 7:30 am to 4:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)? If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MSS

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795